



## Heat exposure in the Canadian workplace

---

**Author(s):** Jay O, Kenny GP  
**Year:** 2010  
**Journal:** American Journal of Industrial Medicine. 53 (8): 842-853

---

### Abstract:

Exposure to excessive heat is a physical hazard that threatens Canadian workers. As patterns of global climate change suggest an increased frequency of heat waves, the potential impact of these extreme climate events on the health and well-being of the Canadian workforce is a new and growing challenge. Increasingly, industries rely on available technology and information to ensure the safety of their workers. Current Canadian labor codes in all provinces employ the guidelines recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) that are Threshold Limit Values (TLVs) based upon Wet Bulb Globe Temperature (WBGT). The TLVs are set so that core body temperature of the workers supposedly does not exceed 38.0 degrees C. Legislation in most Canadian provinces also requires employers to install engineering and administrative controls to reduce the heat stress risk of their working environment should it exceed the levels permissible under the WBGT system. There are however severe limitations using the WBGT system because it only directly evaluates the environmental parameters and merely incorporates personal factors such as clothing insulation and metabolic heat production through simple correction factors for broadly generalized groups. An improved awareness of the strengths and limitations of TLVs and the WBGT index can minimize preventable measurement errors and improve their utilization in workplaces. Work is on-going, particularly in the European Union to develop an improved individualized heat stress risk assessment tool. More work is required to improve the predictive capacity of these indices.

**Source:** <http://dx.doi.org/10.1002/ajim.20827>

### Resource Description

#### Exposure :

weather or climate related pathway by which climate change affects health

Temperature

**Temperature:** Extreme Heat

#### Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

#### Geographic Location:

# Climate Change and Human Health Literature Portal

resource focuses on specific location

Non-United States

**Non-United States:** Non-U.S. North America

**Health Impact:** 

specification of health effect or disease related to climate change exposure

Injury, Other Health Impact

**Other Health Impact:** heat stress; heat related illness

**Intervention:** 

strategy to prepare for or reduce the impact of climate change on health

A focus of content

**Mitigation/Adaptation:** 

mitigation or adaptation strategy is a focus of resource

Adaptation

**Population of Concern:** A focus of content

**Population of Concern:** 

populations at particular risk or vulnerability to climate change impacts

Workers

**Resource Type:** 

format or standard characteristic of resource

Review

**Resilience:** 

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

**Timescale:** 

time period studied

Time Scale Unspecified

**Vulnerability/Impact Assessment:** 

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content